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10/586,313	01/04/2007	Masahiko Akutsu	1248-0875PUS1	2798

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EXAMINER	
RAINEY, ROBERT R	

ART UNIT	PAPER NUMBER
2629	

NOTIFICATION DATE	DELIVERY MODE
04/01/2009	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

Office Action Summary	Application No.	Applicant(s)	
	10/586,313	AKUTSU ET AL.	
	Examiner	Art Unit	
	ROBERT R. RAINEY	2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *05 December 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-27,29-35,37 and 38* is/are pending in the application.

4a) Of the above claim(s) *3-10,12,13,15,16,18-22 and 33* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2,11,17,23-27,29-32,34,35,37 and 38* is/are rejected.

7)☒ Claim(s) *14* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *14 July 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 5 December 2008 have been fully considered.

2. Applicant's traversal of the requirement for Election/Restriction was considered in the previous office action and the requirement was made final. However, examiner offers the following comments: Upon allowance of a base claim all claims that include all limitations of the base claim will be rejoined. In that case the claims would all have a special technical feature in common and thus have unity of invention. A common special technical feature, that is a feature that is not taught in the prior art and thus results in an allowed claim, is precisely that which can then link dependent claims "where the features of any dependent claim could be considered as constituting in themselves an invention".

3. The amendments to claims 27 and 30 effectively overcome the objections to those claims raised in the previous office action.

4. The amendments to claims 26 and 27 effectively overcome the 35 USC § 101 rejections of them in the previous office action.

5. Applicant's arguments regarding the 35 USC § 102(b) rejections of claims 1, 11, 24, 25, 29, 30 and 30 have been considered but they are not persuasive.

Regarding applicant's arguments that Nitta does not disclose two or more I/P conversion methods. Examiner disagrees. Nitta teaches a different method when motion is detected versus when motion is not detected. The fact that applicant chooses to call this a single "motion adaptive I/P conversion method" does not diminish the fact that two different types of conversion are described. If applicant desires a different definition for what constitutes I/P conversion, the definition should be entered as limitations in the claims.

Regarding applicant's arguments that Nitta does not disclose controlling a degree of emphasis conversion/correction according to which one of multiple I/P conversion methods is used. This is an argument for a special definition of "degree" but applicant provided no explicit definition of "degree". Applicant correctly states that the overdrive/emphasis processing is done only if motion is detected. Thus the degree of emphasis is different, zero emphasis versus whatever percent emphasis is applied when motion is detected. The rest of the arguments are arguments for limitations not found in the claims.

Regarding applicant's arguments that Nitta does not disclose "emphasis conversion ... from previous vertical period to current vertical period in a progressive signal that has been subjected to an I/P conversion". If read as described in the arguments, this is a limitation not found in the claims. In order to advance prosecution examiner notes that the signals of each frame are designed to transition the display from one frame image to another. Thus Nitta does teach the plain meaning of the quoted text.

6. Applicant's arguments regarding the 35 USC § 103 rejections of claims 23, 26, 27 and 31 and claims 35 and 2 and 17 have been considered but they are not persuasive, since the arguments presented fall together with those for the section 102 rejections.

7. Applicant's arguments regarding new claims 34, 37 and 38 have been considered but they are not persuasive. Applicant argues that because the limitations were listed in the alternative in previous claim 34, claims to each limitation separately do not represent new matter. The reasoning provided is not effective to indicate lack of new matter. Each of the new claims is more narrow than the original claim, thus not supported by the original claim.

Claim Rejections - 35 USC § 112

8. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

9. **Claims 34, 37 and 38** rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Applicant's specification and claim 34 as first

submitted indicate several equally valid alternatives for the second conversion method for anyone of which the degree of grayscale transition emphasis is decreased. Claims 34, 37 and 38 now contain limitations that were listed in the alternative in previous claim 34. Each of the new claims is more narrow than the original claim, thus not supported by the original claim. By splitting up the conversion types, applicant indicates that these conversion types are treated differently. While other claims do indicate that there are two or more types, nothing on the record indicates where support may be found for treating the types claimed in claims 34, 37 and 38 differently from each other. If there is no difference between the previous claim and the new claims, applicant had no reason to separate the limitations into separate claims. If there is a difference, the new claims are not supported by the old claim.

Note

The section 102 and 103 rejections below are copied from the previous office action. Since the amendments made to the claims adding articles and substituting the word "section" for the word "means" in the most recent response do not affect the interpretation of the claims as previously rejected, only the changes made to claim 11 have been incorporated in the language of the rejections. The changes were included in the rejection of claim 11 to allow for more convenient reading. All other rejections carry over the language from the previous version of the claims.

Claim Rejections - 35 USC § 102

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

11. **Claims 1, 11, 24, 25, 29, 30, and 32** rejected under 35 U.S.C. 102(b) as being anticipated by Japanese Unexamined Patent Publication No. 2003-143556 to *Nitta et al.* ("*Nitta*"). NOTE THAT: references to *Nitta* refer to the applicant provided translation or Abstract.

As to **claim 11**, *Nitta* discloses a signal processing unit for use in a liquid crystal display device, the signal processing unit comprising: a conversion section which converts an interlaced video signal into a progressive video signal (see for example Fig. 20 especially the section labeled "I-P CONVERSION PROCESS"); and a correction section which corrects a video signal of current vertical period so as to emphasize grayscale transition at least from previous vertical period to current vertical period in the progressive video signal (see for example Fig. 23 and [0064]-[0065]), wherein the conversion section is capable of conversions by two or more conversion methods (see for example Fig. 20 especially the section labeled "I-P CONVERSION PROCESS" noting that a different method is used in each branch), and a degree of the grayscale transition emphasis performed by the correction section is changed in accordance with which conversion method among the two or more conversion methods is used by

the conversion section (see for example Fig. 20 especially the section labeled "OVERDRIVE PROCESS" noting that the degree of emphasis is changed in that emphasis is unity in the right branch, that is the signal is not changed, and emphasis is non-unity in the left branch).

As to **claim 24**, *Nitta,* in addition to the rejection of claim 11, further discloses a liquid crystal display device including the signal processing unit (see for example Abstract).

Claims 1 and 25 are rejected on the same grounds and arguments as claim 24 and claim 11.

Claims 29, 30 and 32 claim the method implicit in the apparatus claimed in claim 24 and are rejected on the same grounds and arguments as claim 24 and claim 11.

Claim Rejections - 35 USC § 103

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

13. **Claims 23, 26-27, 31, and 35** are rejected under 35 U.S.C. 103(a) as being unpatentable over Japanese Unexamined Patent Publication No. 2003-143556 to *Nitta et al.* ("*Nitta*")

Claim 23, is rejected on the same grounds and arguments as claim 24 and claim 11 over *Nitta* with the additional argument that:

Nitta does not expressly disclose that the emphasis is performed for each pixel but it would have been obvious to one of ordinary skill in the art to apply the method to each pixel in order to achieve the benefits for each pixel.

Claims 26-27 are rejected on the same grounds and arguments as claim 24 and claim 11 over *Nitta* with the additional argument that:

Nitta does not expressly disclose that the features are embodied in a program on a computer-readable storage medium.

Examiner takes official notice that one of ordinary skill in the art was aware of digital signal processing, that it could be used to perform the functions described by *Nitta* and that to perform the processing one would use a program

on a computer-readable storage medium. This is evidenced by the fact that digital signal processing was widely taught and practiced prior to the invention.

Claim 31, claims the method implicit in the apparatus of claim 23 and is rejected on the same grounds and arguments.

Claim 35 is rejected on the same grounds and arguments as claim 23 since its rejection included the LCD device.

14. **Claims 2 and 17** are rejected under 35 U.S.C. 103(a) as being unpatentable over Japanese Unexamined Patent Publication No. 2003-143556 to *Nitta et al.* ("*Nitta*") in view of Published PCT Application Publication No. WO-03/041043 to *Sugino et al.* ("*Sugino*").

NOTE THAT: references to *Sugino* refer to U.S. Patent Application Publication No. 2004/0201564, which is the U.S. national stage publication of the underlying application for WO-03/041043, PCT/JP02/11745.

As to **claim 2**, in addition to the rejection of claim 1 over *Nitta*:

Nitta does not expressly disclose table memory which stores an emphasis conversion parameter determined by video data of current vertical period and video data of previous vertical period, the emphasis conversion means having: an operation section which performs emphasis operation on the video data by

using the emphasis conversion parameter; and a multiplying section which multiplies output data obtained by the emphasis operation by a coefficient varying depending upon which kind of conversion method among the two or more conversion methods is used for the conversion.

Sugino discloses a liquid crystal display which emphasizes gray scale transition (see for example Title and Fig. 17). and in particular table memory which stores an emphasis conversion parameter determined by video data of current vertical period and video data of previous vertical period, the emphasis conversion means having: an operation section which performs emphasis operation on the video data by using the emphasis conversion parameter (see for example Fig. 1).

Nitta and *Sugino* are analogous art because they are from the same field of endeavor, which is displays using gray scale transition emphasis.

Nitta as modified by *Sugino* disclose the claimed invention except for the emphasis conversion means having: a multiplying section which multiplies output data obtained by the emphasis operation by a coefficient varying depending upon which kind of conversion method among the two or more conversion methods is used for the conversion.

Sugino further discloses a comparable device (see for example Fig. 1 the box labeled "Write-gray scale level determining means") improved by adding the ability to change the degree of emphasis by including a multiplying section which multiplies output data obtained by the emphasis operation by a coefficient

varying depending upon which of two or more temperatures is sensed (see for example Fig. 7 and [0126]-[0127]).

One of ordinary skill in the art could have applied known improvement technique taught by *Sugino* and the results would have been predictable.

At the time of invention, it would have been obvious to a person of ordinary skill in the art to use table memories to store emphasis conversion parameters and use them in an operation section to perform the emphasis operation after *Sugino* as the method of implementing the emphasis operation, i.e. "OVERDRIVE PROCESS" of *Nitta*. The suggestion/motivation would have been to provide advantages such as to provide a write-gray scale determining means based on actual measurement of the optical response characteristics of a liquid crystal display panel (see for example *Sugino* [0006]-[0007]).

Claim 17 claims a subset of the limitations of claim 2 and is rejected on the same grounds and arguments.

Allowable Subject Matter

15. **Claims 14 and 34 and 37 and 38** objected to as being dependent upon a rejected base claim, but would be allowable if the 112 1st paragraph rejections of claims 34, 37, and 38 are successfully overcome and if the claims are rewritten in independent form including all of the limitations of the base claim and any intervening claims.

16. The following is a statement of reasons for the indication of allowable subject matter: The prior art found does not teach "in a case where the conversion means performs conversion by the second conversion method, a degree of grayscale transition emphasis performed by the correction means is changed to be lower than in a case where the conversion means performs conversion by the first conversion method". For example *Nitta* teaches the opposite arrangement.

Conclusion

17. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ROBERT R. RAINEY whose telephone number is (571)270-3313. The examiner can normally be reached on Monday through Friday 8:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amare Mengistu can be reached on (571) 272-7674. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/RR/

/Amare Mengistu/
Supervisory Patent Examiner, Art Unit 2629